Source: Hypertension. Huntsville (TX): University of Texas Medical Branch Correctional Managed Care; 2002 Apr.

## HYPERTENSION EMERGENCY
**(See JNC-VI RISK STRATIFICATION AND TREATMENT) (1)**

Hypertensive emergencies occur rarely, but immediate blood pressure reduction is required to diminish the progression of target organ damage. Target organ damage may be manifested as hypertensive encephalopathy, intracranial hemorrhage, unstable angina pectoris, acute myocardial infarction, acute left ventricular failure with pulmonary edema, dissecting aortic anuerysm, acute renal failure or eclampsia. Most hypertensive emergencies are treated initially with parenteral agents. Blood pressure reduction does not need to reach the normal range immediately. The initial goal of therapy is to reduce the mean arterial blood pressure* by no more than 25% (within minutes to 2 hours), then toward 160/100 mm Hg within 2 to 6 hours, avoiding excessive falls in pressure that may precipitate renal, cerebral, or coronary ischemia.

## HYPERTENSION URGENCY
**(See JNC-VI RISK STRATIFICATION AND TREATMENT) (1)**

Hypertensive urgencies are described as episodes of asymptomatic severe blood pressure elevation that should be reduced within several hours. Blood pressure readings in the upper level of stage 3 (systolic > 210 mm Hg and/or diastolic > 120 mm Hg) are considered to hypertensive urgencies. Elevated blood pressure alone, in absence of symptoms or new or progressive target organ damage, rarely requires emergency therapy. Hypertensive urgencies can be managed with oral doses of drugs which have a relative fast onset of action. The choices include oral loop diuretics, beta-blockers, ace-inhibitors, alpha2-agonists, or calcium channel antagonists.

**Obtain History**
**Perform Physical Exam**
Obtain BP both arms, Evaluate heart, lungs and neck veins for evidence of CHF; examine optic fundi for hemorrhages, exudates or papilledema; determine all pulses especially if aortic dissection is suspect; perform abdominal exam for bruits / renal artery stenosis.
**Perform neurological exam**
**Elevate head at 45° angle**
**Establish intravenous line**
**Obtain EKG**
**Obtain labs**
Chem-10, CBC, Urinalysis

1

**Obtain History**
BP > 210 mm Hg systolic and/or > 120 mm diastolic?
or
HTN with optic disc edema?
or
Progressive target organ damage?

Yes

2 Evaluate target organ damage (see text above)

3 Sign & Symptoms indicate hypertensive emergency?

Yes

No

4

**Transfer to nearest emergency room**
Call 911 and follow unit protocol.
For UTMB, if ambulance is not immediately available call 911.

**Call Utilization Review/Utilization Management**

5 Treat as hypertensive urgency with an oral immediate release hypotensive agent.
If patient's medication regimen includes an immediate release product, administer an extra dose of prescribed agent. If patient's regimen includes only sustained release products or agents with a slow onset of action (diltiazem XR, verapamil SR, propranolol LA, amlodipine, doxazosin) administer oral furosemide 40 mg or atenolol 50 mg or captopril 25 mg or verapamil 80 mg or diltiazem 60 mg or clonidine 0.1 mg.

6 Multiple doses of medication may be needed over time to adequately reduce blood pressure. Observe for at least 3-6 hours and discharge from medical department when BP is less than 160/100 mmHg. Follow up next day to obtain BP reading. Follow up in Chronic Care Clinic per ITP.

The pathways do not replace sound clinical judgement nor are they intended to strictly apply to all patients

*** MAP = (1/3) (SBP-DBP) + DBP**
**Normal MAP is: 70 - 105 mmHg**

1. Sixth Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. Bethesda, MD: National Heart, Lung, and Blood Institute National High Blood Pressure Education Program, 1997; NIH publication no. 98-4080.

*Prepared by the Texas Department of Criminal Justice / University of Texas Medical Branch / Texas Tech University Managed Health Care Network Pharmacy & Therapeutics Committee, August 1995. Revised April 2002.*